

IN THE CLAIMS:

1. (Currently Amended) A plasma display panel in which a first substrate having a protective layer formed thereon opposes a second substrate across a discharge space, with the substrates being sealed around a perimeter thereof, comprising:

at a surface of the protective layer, a first material and a second material of different electron emission properties are exposed to the discharge space, with at least one of the first material and the second material being in a dispersed state, wherein the first and second materials are respectively first and second crystals, and the second crystal is dispersed throughout the first crystal at the surface of the protective layer.

a first substrate;

10 a second substrate which opposes the first substrate across a discharge space, the first and second substrates being sealed around a perimeter thereof; and

a protective layer formed on the first substrate, including a first crystal and a second crystal, the first crystal having different electron emission properties than the second crystal, wherein at the surface of the protective layer the second crystal is dispersed throughout the first crystal and the second crystal and the first crystal are exposed to the discharge space.

15 2. (Cancelled)

3. (Previously Presented) The plasma display panel of claim 1, wherein the second crystal is of higher purity than the first crystal.

4. (Previously Presented) The plasma display panel of claim 1, wherein the protective layer is formed mainly from MgO, and

the second crystal is formed from fine MgO crystalline particles.

5. (Original) The plasma display panel of claim 4, wherein the first crystal is obtained by baking an MgO precursor.

6. (Original) The plasma display panel of claim 4, wherein the second crystal is oxygen rich MgO.

7. (Previously Presented) The plasma display panel of claim 1, wherein in the protective layer, at least the second crystal is doped with one or more members selected from the group consisting of Si, H, and Cr.

8 - 28. (Cancelled)

29. (Currently Amended) The plasma display panel of claim 4, wherein the first crystal is ~~obtained~~ has a growth structure characteristic of at least [[by]] a vacuum deposition, an electron beam deposition or a sputtering process.

30. (Currently Amended) The plasma display panel of claim 1, wherein the first crystal is ~~obtained using~~ has a growth structure characteristic of a thin film technique.

31. (Currently Amended) The plasma display panel of claim 3, wherein the first crystal is ~~obtained using~~ has a growth structure characteristic of a thin film technique.

32. (Currently Amended) The plasma display panel of claim 4, wherein

the first crystal is obtained using has a growth structure characteristic of a thin film technique.

33. (Previously Presented) The plasma display panel of claim 1, wherein the second crystal is formed from particles of several dozen to several hundred nanometers in size.

34. (Previously Presented) The plasma display panel of claim 3, wherein the second crystal is formed from particles of several dozen to several hundred nanometers in size.

35. (Previously Presented) The plasma display panel of claim 4, wherein the second crystal is formed from particles of several dozen to several hundred nanometers in size.

36. (Previously Presented) The plasma display panel of claim 1, wherein the second crystal is formed from a combination of materials.

37. (Previously Presented) The plasma display panel of claim 3, wherein the second crystal is formed from a combination of materials.

38. (Previously Presented) The plasma display panel of claim 4, wherein the fine MgO crystalline particles are formed from a suitable combination of materials.

39. (New) A method of manufacturing a plasma display panel, comprising the steps of:

forming a first substrate;

5 forming a protective layer on the first substrate, including a first crystal and a second crystal of different electron emission properties exposed to the discharge space, the second crystal being dispersed throughout the first crystal at the surface of the protective layer; and

sealing the first substrate and a second substrate together via a discharge space with the protective layer facing into the discharge space, the first and the second substrates being sealed around a perimeter thereof, wherein

10 the protective layer is formed by way of mixing a second crystalline material in a first crystalline material, applying the mixture to a surface of the first substrate, and baking the applied mixture.

40. (New) The manufacturing method of claim 39, wherein an MgO precursor is used as the first crystalline material, and fine MgO crystalline particles are used as the second crystalline material.

41. (New) A method of manufacturing a plasma display panel, comprising the steps of:

forming a first substrate;

5 forming a protective layer on the first substrate, including a first crystal and a second crystal of different electron emission properties exposed to the discharge space, the second crystal being dispersed throughout the first crystal at the surface of the protective layer; and

sealing the first substrate and a second substrate together via a discharge space with the protective layer facing into the discharge space, the first and the second substrates being sealed around a perimeter thereof, wherein

10 the first crystal is formed by way of a thin film technique.

42. (New) A method of manufacturing a plasma display panel, comprising steps of:

forming a first substrate;

5 forming a protective layer on the first substrate, including a first crystal and a second crystal of different electron emission properties exposed to the discharge space, the second crystal being dispersed throughout the first crystal at the surface of the protective layer; and

sealing the first substrate and a second substrate together via a discharge space with the protective layer facing into the discharge space, the first and second substrates being sealed around a perimeter thereof, wherein

the first crystal is formed at least by way of vacuum deposition, electron beam deposition
10 or sputtering.

43. (New) The method of manufacturing a plasma display panel of claim 41, wherein the first substrate and the second substrate are sealed together via a discharge space with the first crystal and the second crystal being exposed to the discharge space.

44. (New) The method of manufacturing a plasma display panel of claim 42, wherein the first substrate and the second substrate are sealed together via a discharge space with the first crystal and the second crystal being exposed to the discharge space.

45. (New) The method of manufacturing a plasma display panel of claim 41, wherein fine MgO crystalline particles are used as the second crystalline material.

46. (New) The method of manufacturing a plasma display panel of claim 42, wherein fine MgO crystalline particles are used as the second crystalline material.

47. (New) The method of manufacturing a plasma display panel of claim 40, wherein in the layer-forming step, at least the second crystalline material out of the first and second crystalline materials is doped with a member selected from the group consisting of Si, H, and Cr.

48. (New) The method of manufacturing a plasma display panel of claim 45, wherein in the layer-forming step, at least the second crystalline material out of the first and second crystalline materials is doped with a member selected from the group consisting of Si, H, and Cr.

49. (New) The method of manufacturing a plasma display panel of claim 47, wherein in the layer-forming step, one of annealing and plasma doping is selected as a technique of doping at least the second crystalline material with H.

50. (New) The method of manufacturing a plasma display panel of claim 48, wherein in the layer-forming step, one of annealing and plasma doping is selected as a technique of doping at least the second crystalline material with H.

51. (New) The method of manufacturing a plasma display panel of claim 47, wherein in the layer-forming step, plasma doping using SiH_{sub.4} or Si.wub.2H_{sub.6} is performed as a technique of doping at least the second crystalline material with Si.

52. (New) The method of manufacturing a plasma display panel of claim 48, wherein in the layer-forming step, plasma doping using SiH_{sub.4} or Si_{sub.2}H_{sub.6} is performed as a technique of doping at least the second crystalline material with Si.

53. (New) A method of manufacturing a plasma display panel, comprising steps of:

forming a first substrate;

5 forming a protective layer on the first substrate, including a first crystal and a second crystal exposed to the discharge space, the second crystal being dispersed throughout the first crystal at the surface of the protective layer, the first crystal is formed mainly from MgO, and fine MgO crystalline particles are used as the second crystalline material; and

sealing the first substrate and a second substrate together via a discharge space with the protective layer facing into the discharge space, the first and the second substrates being sealed around a perimeter thereof;

10 wherein the first crystal is formed by way of a thin film technique.

54. (New) A method of manufacturing a plasma display panel, comprising steps of:

forming a first substrate;

5 forming a protective layer on the first substrate, including a first crystal and a second crystal exposed to the discharge space, the second crystal being dispersed throughout the first crystal at the surface of the protective layer, the first crystal is formed mainly from MgO, and fine MgO crystalline particles are used as the second crystalline material; and

sealing the first substrate and a second substrate together via a discharge space with the protective layer facing into the discharge space, the first and the second substrates being sealed

around a perimeter thereof;

10 wherein the first crystal is formed at least by way of vacuum deposition, electron beam deposition or sputtering.

55. (New) A method of manufacturing a plasma display panel according to claim 54, wherein the first substrate and the second substrate are sealed together via a discharge space with the first crystal and the second crystal being exposed to the discharge space.